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ABSTRACT

A program of partial (half-day) French immersion in the Cincinnati Public Schools was evaluated in the kindergarten year. The English and French language development of participating native English-speaking children from both working class and middle class backgrounds was assessed. The results indicated that (1) the pupils who spent half of their academic time in a foreign language progressed just as well in English as carefully matched control pupils who followed a conventional all-English program, and (2) socioeconomically disadvantaged children, both black and white, benefited as much as pupils from middle class homes from an immersion-type introduction to a foreign language. The degree of progress made in French was not linked to the social class background of the pupils, even though this background factor clearly affected the students' performance on the English language tests. These results suggest that the immersion experience may help to diminish the effects of social class background. A 13-item reference list is included. Seven statistical tables are appended. (Author/MSE)

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An Evaluation of Partial French Immersion in the Cincinnati Public Schools: The Kindergarten Year

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Abstract

A program of partial (half-day) French immersion in the Cincinnati Public Schools was evaluated in the Kindergarten year. The English and French language development of participating native English-speaking children from both working and middle class backgrounds was assessed. The results indicated, firstly, that the pupils who spent half of their academic time in a foreign language (French) progressed just as well in English as carefully matched control pupils who followed a conventional all-English program. Secondly, it was found that socio-economically underprivileged children (both black and white) benefited as much as pupils from middle class homes from an immersion-type introduction to a foreign language. The degree of progress made in French was not linked with the social class background of the pupils even though this background factor clearly affected the students' performance on the English language tests. These results suggest that the immersion experience may help to diminish the effects of social class background.

An Evaluation of Partial French Immersion in the Cincinnati Public Schools: The Kindergarten Year

In ethno-linguistically pluralistic societies, the problems associated with bi- and multi-lingualism and bi- and multi-culturalism are persistent and pervasive. The United States today is perhaps the best example of a society trying to include language along with culture, race, religion and sex in its considerations of fair and just policies. Education in the U.S. reflects this societal concern in the programs of heritage-language and bilingual education it has instituted, designed especially for language minority groups whose children are often handicapped because English is not their home language. At the same time, many Americans are concerned that a too generous support of such programs might induce a de facto bi- or multi-cultural feature to the country as particular ethnolinguistic groups, such as the Hispanic group, become large. Often the example of bilingual Canada, especially Quebec with its tensions between English- and French-speaking Canadians, is brought into the thinking on the topic.

So much attention has been placed in recent years on minority language groups' needs that Americans tend to neglect the status of second or foreign language skill development for the English-speaking majority group. In fact, over the last twenty years, Americans have let foreign language training slip out of university entrance requirements, and then out of high school leaving requirements to the extent that the nation is as vulnerable in the 1980's as it was in the 1960's to criticisms of widespread ignorance of other peoples and other languages. In the 1960's, this criticism led to the "ugly American" characterization that played a role in the creation of the National Defense Education Act, an act that gave as much importance to foreign

language development as to science and mathematics development. Recent presidential committees have found the U.S. to be in a devastating, even dangerous state of language ignorance again.

Perceptive parents and educators in various communities across the U.S. have kept alert to these danger signals, and even though today there is less response or interest coming from the present Federal government, there is nonetheless a serious interest at the community level. An outstanding example of such a community response is that of the Cincinnati Public School System which offered elementary programs of foreign language training starting in 1974. Since then several options have been available to native English-speaking pupils in French, German or Spanish in the form of core or extended core language programs, or partial (half-day) immersion (Met, 1982).

It is noteworthy that the Language Program office of the Cincinnati Public School System has been following closely the evaluations made of French immersion programs designed for anglophone pupils in Canada and has seen the value of adapting such programs for the U.S. educational scene, especially since black and white, as well as ethnic minority students, can be brought together voluntarily around the common interest of developing skills in a language other than English. Fortunately, the Canadian studies of immersion have been longitudinal and comprehensive, with a substantial background literature (e.g., Genesee, 1983; Genesee, Lambert, & Holobow, 1985; Lambert, 1984; Lambert & Tucker, 1972). Even though the Canadian programs are unquestionably effective in developing functional bilingualism by the end of elementary schools without any trade-off of English language skill development or subject matter mastery, it is nonetheless the responsibility of researchers and educators to be certain that foreign

language immersion produces similar and not contrary results in the U.S. setting. The present study is the first that capitalizes on the collaboration of researchers in Cincinnati and in Montreal. The study examines in some detail the impact of a partial (half-day) immersion program in French on youngsters in their kindergarten year in the Cincinnati public school system. This is the first report of a four-year longitudinal evaluation. The original immersion group, as well as a follow-up immersion group, will be studied as they advance from kindergarten through grade 3.

The Programs

The term "partial immersion" refers to the French immersion program that is presently being offered in some elementary schools in Cincinnati. At the kindergarten level, this is an all-day program taught by two teachers. Each student spends half the day with a monolingual English speaking teacher who teaches the standard curriculum, and the other half of the day with a teacher who speaks French exclusively. During the French half day, the kindergarten curriculum is enriched and reinforced. In other words, the basic curriculum is continued via the French language - the focus of attention is not on language, but rather on content.

"Control" refers to the regular English all-day kindergarten program offered in other schools.

The Pupils

Information about the socioeconomic backgrounds of the children in the study came from parents who completed a questionnaire sent to them. Table 1 presents various features of the socioeconomic status that characterize the "working class" and "middle class" subgroups we worked with. Some 71% of the questionnaires were returned, providing us with a fairly representative

sample of respondents. Children from 11 classes in 4 schools were included in the evaluation. Two schools offered the partial French immersion option and two schools did not. It is important to note that the number of questionnaires returned accurately reflects the racial composition of the schools themselves. In one partial immersion and in one control school, black children made up about 35% of the total composition. In the second partial immersion school and the second control school, the ratio of black to white children approached 50-50. The average percentage of black children to white children from all four schools was 42. In terms of questionnaires returned, the black to white child ratio was 38%.

Partial immersion, working class. Table 1 also shows the number of students in each of the evaluation groups. The 38 pupils who made up the working class partial immersion group came from working class backgrounds as gauged by their parents' responses to a questionnaire that asked about parental education, employment and salary. An arbitrary cut-off point of a maximum of $15,000 per year total household income is one feature of what we will call working class; a second feature is a high school or technical education as the highest educational level completed; and a third feature is an occupation falling at the manual or unskilled labor level. There were 17 white children and 21 black children in this group.

Partial immersion, middle class. The 35 students in this group came from middle class backgrounds, meaning that the total annual household income ranged between $21,000 and $45,000; the average education level included a good proportion of parents who had received a college degree; and an average occupation level in professional or skilled labor positions. There were 9 black and 26 white children in this group.

Control, working class. As with their partial immersion counterparts, the 33 students who made up this group came from working class homes, using the same criteria for assessing socio-economic background as described above. There were 14 white and 19 black children in this group.

Control, middle class. The 37 students, 9 black and 28 white, who comprised this group came from the same kind of middle class background as their partial immersion counterparts.

Testing Materials

Pretests

Two pretests, one a test of nonverbal reasoning and the other a test of English vocabulary skills, were administered to children in the autumn of 1983, the start of their kindergarten year. This was done to insure that the partial immersion and control groups had both started the year on equal footing in terms of general academic potential. Thus, any differences that might show up in subsequent testing could not be attributed to initial differences in nonverbal reasoning or English vocabulary.

Raven's Coloured Progressive Matrices Test (1956). This test is designed to measure nonverbal reasoning ability, and except for simple instructions given by the tester, it does not involve the use of language. Sets A, A_b and B were administered to small groups of 4 or 5 pupils. The number of correct responses out of 36 made up each pupil's score.

Peabody Picture Vocabulary Test, (Form A). This test was designed by Dunn (1959) to assess English vocabulary skills. A single word is spoken aloud by the tester and the childen have to choose the one picture out of an array of four that best represents the meaning of the word heard. For instance, the tester says "fence", and the task is to locate the picture of a

fence placed among pictures of an axe, a tire and a gift. Testing began at item 15 in the Peabody battery and continued through item 60. Each child's score was the number correct out of 46.

Pre-test Matching

Within each of the two socioeconomic classes, the partial immersion and control groups were matched with respect to the two pretests--the nonverbal reasoning ability test and the test of English vocabulary skills. This matching insured that no significant differences existed between the two groups of students at the beginning of their program and the evaluation (see Table 2). For example, the mean Peabody scores for the partial immersion and control working class groups were 27.86 and 29.06 respectively; those for the partial immersion and control middle class groups were 31.32 and 30.97 respectively. Although there was no significant difference between the program groups (i.e., the partial immersion vs. the control group) [$F(1,137) = 0.38$, $p > .10$], there was a significant difference between the working class and middle class scores on the test of English vocabulary [$F(1,137) = 15.97$, $p < .001$]. The same pattern was found for the test of nonverbal reasoning ability.

English Language Achievement

The Metropolitan Readiness Tests (Nurss & McGauvran, 1976) were administered at two times during the school year: Level I, Form P was given at the beginning of the 1983 academic year (October) along with the two pretest measures; and Level II, Form P, was administered at the end of the kindergarten year (May/June, 1984). These tests are designed to assess kindergarten children's "readiness to begin formal school learning". Level I assesses kindergarten students' skills in auditory memory, rhyming, letter

recognition, visual matching, school language and listening, quantitative language and copying. Level II assesses more advanced skills related to beginning reading and mathematics, including tests of auditory, visual, language and quantitative skills.

It was important to have the English academic achievement test administered at the beginning of the school year because we wanted to be able to establish the comparability of the immersion and control students on school-related skills at the outset. This in turn would permit us to rule out the possibility that any end-of-year differences existed before the students were exposed to either kind of school experience. As expected, the immersion and control groups did not differ significantly on overall Metropolitan scores at the beginning of the year (see Table 3). There was, however, a significant difference in favor of the middle class students over the working class students [$F(1,136) = 14.10$, p, $< .001$]. These results are similar to the pretest results from the Peabody Picture Vocabulary Test and the Raven's Progressive Matrices. Thus, socioeconomic status (SES) differences showed through both in the pretest results and in the readiness for formal education results; SES differences were equally evident in the scores of the partial immersion and the control groups. The beginning-of-year testing therefore insured that at each SES level the kindergarten children included in the study, whether starting a partial French immersion program or a regular all-English program, were essentially the same in reasoning ability and achievement level. The important question then was whether the partial French immersion experience would produce any detrimental effects on the development of the students' English language skills by the end of their first year of education. To answer this question, Level II of

the Metropolitan Readiness Test was administered to both the partial immersion and control students at the end of the school year.

French Language Skills Tests

There remained a further question, this one concerned about the development of French language proficiency among the students participating in the immersion program. Would their skills be as advanced as native English-speaking children of the same age and grade involved in a similar type of program in Canada, a country where French is an official language and therefore has a more obvious social relevance? To answer this question, we administered two Canadian-based French language tests at the end of kindergarten to the children in the partial immersion program. The tests are described below.

Test Linguistique Maternelle. Devised by Stevens (1983), this test has two major components, one measuring French listening comprehension and the other measuring oral production. Although the test has not been formally standardized, it has been used widely in Montreal to assess the French language development of students in various types of kindergarten programs, including French native-speakers in all-French schools. The French listening comprehension subtest assesses comprehension of vocabulary, short phrases and short stories by asking children to identify objects or pictures being asked for or referred to in spoken passages. In the oral production subtest, the students are asked to name certain objects, to use complements and prepositions, to produce short phrases, and to express themselves freely. An example of a question designed to elicit complements and prepositions is "Où est la cuillère?" (Where is the spoon?) The correct response is "Dans la boite" (in the box). The free expression part was based on the children's

abilities to relate a story suggested by a series of pictures. Their stories were evaluated on a rating scale which ranged from excellent to poor and finally to no response. Responses to other subtests were scored as correct, incorrect, or no response.

French Comprehension Test (Primer). This test was designed by Barik (1976) to measure the French comprehension skills of children at the end of a half-day kindergarten year in total French immersion. The test has been standardized on a group of Canadian pupils and thus offers the possibility of assessing the French language achievement of the kindergarten children in the Cincinnati immersion program. The test assesses comprehension of words, sentences, questions, and a short story presented orally in French. For example, given pictures of an ice cream cone, a bunch of grapes, a glove and a hotdog, the child is asked to choose the picture that answers the question "Qu'est-qu'on ne mange pas?" (What don't we eat?) Each pupil's score was the number correct out of a total of 45.

Results: End-of-Year, 1984

English Language Achievement

The results of the end-of-year testing of English language achievement are presented in Table 3. The total raw scores from the Metropolitan Readiness Tests (Level II) were tested by means of a 2-way analysis of variance with program type (partial immersion vs. control) and socioeconomic status (working class vs. middle class) as the independent variables. There were no significant main or interaction effects involving program type, which means that the scores of the partial immersion and control students did not differ from each other. In other words, the children who had been involved in the partial French immersion program from the beginning of the school year

did not show any disruption in their English language development even though time for instruction through English was only half that available to the control children. That there was no significant program type by socioeconomic status interaction effect indicates that the working class partial immersion students experienced no detrimental effects as far as their English language skills are concerned when compared to similar working class students in the regular English program. When the raw scores are converted to stanine equivalents, it can be seen that all four groups of students performed on par with "average" American pupils at the same grade level (the average stanine range is 4 - 5 - 6). Both working class groups performed at the 5th stanine level, while both middle class groups performed at the 6th stanine level.

The only statistically significant effect to emerge was due to socioeconomic status--the students from the working class families (both partial immersion and control) obtained significantly lower scores than the students from the middle class families. It is interesting to note that although differences were found between the working and the middle class students, the former were performing well within the average stanine range.

In summary, these results indicate that the partial French immersion students, whether they were from working class or middle class families, experienced no detrimental effects to their English language development.

French Language Achievement

The results for the French language tests are presented in Table 4. For the Test Linguistique Maternelle, scores from the listening comprehension component and the oral production component were analyzed separately; in addition, the total (combined) test score was analyzed. For the French

Comprehension Test, total raw scores were analyzed.

There were no significant differences between the mean scores of the students from the working and middle class families on either of the two French language tests. It can be seen from Table 4 that the working class students and the middle class students scored comparatively well in French listening comprehension, better in fact than the average (the 50% point) of Canadian youngsters involved in half-day French immersion programs. These results are important because they suggest that the development of French language proficiency, at least in terms of interpersonal communication skills, are relatively insensitive to overall class differences. Such differences might have been expected, in view of the effects of social class on English language performance.

As a group, the immersion students were rated "poor" on speaking, (scores of D or E on the ratings of free expression), and consequently no further analysis of free expression was done. This is typical for immersion pupils at the kindergarten level. When we compare the scores from the listening comprehension component of the Test Linguistique Maternelle to the scores obtained on the oral production component of the same test, it is quite evident that the youngsters understand spoken French far better than they speak it. This is not out of line with the findings reported on first language acquisition or second language learning which typically show that comprehension precedes production.

Summary and Conclusions

The main findings of the research were:

First, public school pupils from socio-economically underprivileged families in a large American city were found to benefit as much as students from middle class homes from an immersion-type introduction to a foreign language. In particular, the degree of progress made in French was not linked with the social class background of the students even though the socioeconomic background factor clearly affected the students' performance on the English language tests and on a test of nonverbal reasoning ability. Although we are working with students who are just beginning school, the results suggest that the immersion experience may help to diminish the effects of social class background, providing an opportunity for those from less advantaged homes to expand their foreign language competence as much as students from more advantaged homes. We will continue to monitor the socioeconomic factor in future testing.

Second, the present results indicate that English-speaking kindergarten pupils who spend half of their academic time in a foreign language can progress as well in English as carefully matched control pupils following a conventional all-English program. It seems likely that some form of transfer from French to English may be taking place. This means that the partial immersion pupils are getting two language experiences "for the price of one".

There is an interesting and potentially valuable statement to be made about the black students who participated in the immersion program. Overall, the black students comprised 38% of the pupil population we evaluated here. Their performance in comparison to white pupils on the pre- and post-tests are presented in Tables 5 and 6. Although the black and white students

scored at the same level on the test of nonverbal reasoning ability (Table 5), the black students scored significantly below the white students on the English vocabulary pretest and on the composite Metropolitan Readiness test at both the beginning and the end of the kindergarten year (Tables 5 and 6). We have no explanation of the black students' comparatively poorer performance on these English language tests. It could be that the test language is biased against the black dialect of English that most black students come to school with. Or, there could be more complex attitudinal-motivational reasons for poorer black academic performance (see Jones, 1984). Whatever the exact explanation, it is noteworthy that the black students demonstrated the same level of French language achievement as the white students (see Table 7). In fact, the best group was the black middle class group. However, the number of pupils here is small and the differences are not large enough to permit any solid generalizations at this time. These findings corroborate previous results indicating the effectiveness of the immersion approach for educating students with diverse characteristics (see Bruck, 1984; Genesee, 1976).

References

Barik, H.C. (1976). French Comprehension Test: Primer. The Ontario Institute for Studies in Education, Toronto, Ontario.

Bruck, M. (1984). Feasibility of an aditive bilingual program for the language impaired child. In M. Paradis & Y. Lebrun (Eds.), Early bilingualism and child development, Swets & Zeitlinger BV, Lisse.

Dunn, L.M. (1959). Peabody Picture Vocabulary Test. American Guidance Service Inc., Circle Pines, Minnesota.

Genesee, F. (1976). The role of intelligence in second language learning. Language Learning, 26, 267-280.

Genesee, F. (1983). The bilingual education of majority language children: The immersion experiments in review. Applied Psycholinguistics, 4, 1-46.

Genesee, F., Lambert, W.E., & Holobow, N.E. (1985). Second language acquisition through immersion: The Canadian approach. Infancia y Aprendizaje, Madrid, Spain.

Jones, L.V. (1984). White-black achievement differences: The narrowing gap. American Psychologist, 39 (11), 1207-1213.

Lambert, W.E. (1984). An overview of issues in immersion education. In Studies on Immersion Education, California State Department of Education, Sacramento, CA, 8-30.

Lambert, W.E., & Tucker, G.R. (1972). Bilingual education of children: The St. Lambert experiment. Rowley, MA: Newbury House Publishers.

Met, M. (1982). Second languages in the elementary schools: Alive and well in Cincinnati. Mimeo, Cincinnati Public Schools, Cincinnati, OH.

Nurss, J.R., & McGauvran, M.E. (1976). Metropolitan Readiness Tests. New York: Harcourt Brace Jovanovich Inc.

Raven, J.C. (1956). Coloured Progressive Matrices. London, England: H.K. Lewis & Co. Ltd.

Stevens, F. (1983). Test Linguistique Maternelle. Concordia University, Montreal, Quebec.

Table 1

Social Class Background Characteristics:
Cincinnati Public School Kindergarten Groups
1983-84

	Percent Unemployed	Household Income	Percent Single Parent	Mother's Education	Father's Education	Average Parental Occupation
1. Immersion, White Working Class (N=17):	24	1.29	53	2.06	2.08	1.86
2. Immersion, White Middle Class (N=26):	0	5.27	4	2.73	3.15	3.62
3. Immersion, Black Working Class (N=21):	43	1.24	71	2.24	1.24	2.65
4. Immersion, Black Middle Class (N=9):	0	5.44	11	3.00	2.89	2.83
5. Control, White Working Class (N=14):	14	1.29	57	1.86	1.93	2.50
6. Control, White Middle Class (N=28):	4	5.04	3	2.59	2.68	3.62
7. Control, Black Working Class (N=19):	37	1.10	79	2.47	2.10	2.25
8. Control, Black Middle Class (N=9):	0	5.33	11	2.78	3.56	3.61

Legends, Table 1

Household Income Scale:

1. 0-10,000
2. $11,000-15,000
3. $16,000-20,000
4. $21,000-25,000
5. $26,000-30,000
6. $31,000-35,000
7. $36,000-45,000
8. $46,000-55,000
9. $56,000-65,000
10. $66,000 or over

Education Scale: (Highest level completed)

1. Elementary
2. High School
3. Technical School
4. College Degree
5. Graduate Degree

Occupation Scale:

1. Non-technical; manual
2. Office: clerical, secretarial
   Sales: in stores
3. Sales: technical or business;
   Public Service (e.g., post office);
   Middle technical (e.g., artist, mechanic, plumber, nurse, teacher, police officer)
4. Middle management or public service management
5. Highly technical (e.g., electronics, computer);
   Finance (banker, stock broker)
6. Professional; top management in large concern

Table 2

Pretest Achievement Means: Immersion and Control Groups

	Immersion		Control		F Ratios		
	Working Class	Middle Class	Working Class	Middle Class	Program	SES	Program x SES
Pretests							
-Nonverbal Reasoning (36)[1]	13.51	15.29	13.75	15.78	0.43(1,134)[a]	11.60*** (1,134)	0.05 (1,134)
						WC 13.62 (67) — MC 15.55 (71)[b]	
-Peabody English Vocabulary (46)	27.86	31.32	29.06	30.97	0.38 (1,137)	15.97*** (1,137)	1.32 (1,137)
						WC 28.43 (70) — MC 31.14 (71)	

[1] Maximum test scores are indicated in parentheses.

[a] Numbers within parentheses indicate degrees of freedom associated with each F ratio.

[b] Means connected with a line differ significantly.

*** $p < .001$

Table 3

English Academic Achievement Means: Immersion and Control Groups

	Immersion		Control		F Ratios		
	Working Class	Middle Class	Working Class	Middle Class	Program	SES	Program x SES
Achievement Test							
Beginning-of-Year:							
-Metropolitan Readiness (76)[1] Level I	53.22	60.79	51.31	57.92	1.61 (1,136)[a]	11.60*** (1,134)	0.05 (1,134)
						WC 52.33 (60) — MC 59.29 (71)[b]	
Stanine (9)	4	5	4	5			
End-of-Year:							
-Metropolitan Readiness (73)[1] Level II	50.08	58.23	52.94	60.14	1.47 (1,133)	15.21*** (1,133)	0.06 (1,133)
						WC 51.36 (69) — MC 59.27 (68)	
Stanine	5	6	5	6			

[1] Maximum test scores are indicated in parentheses.

[a] Numbers within parentheses indicate degrees of freedom associated with each F ratio.

[b] Means connected with a line differ significantly.

*** p <.001

Table 4

French Test Results: Immersion Groups

Test	Working Class	Middle Class	F Ratio
1) O.I.S.E. Listening Comprehension (45)[1]	30.71	33.91	3.45 (1,68)[a]
Percentile:	57	69	
2) -Listening Comprehension Subscore Test Maternelle (20)	12.80	13.69	0.63 (1,68)
-Oral Production Subscore Test Maternelle (17)	4.79	5.23	0.26 (1,67)
-Total Test Score Test Maternelle (37)	17.56	18.91	0.55 (1,67)

[1] Maximum test scores are indicated in parentheses.

[a] Numbers within parentheses indicate degrees of freedom associated with each F ratio.

Table 5

Pretest Achievement Means: Fall 1983

Test	Immersion				Control				F Ratios[a]		
	WC Black	MC Black	WC White	MC White	WC Black	MC Black	WC White	MC White	Program	SES	Race
Pretests:											
-Nonverbal Reasoning (36)[1]	12.53	15.89	14.69	15.08	13.05	15.33	14.77	15.93	0.47 (1,130)[b]	7.31** (1,130)	3.02 (1,130)
										WC 13.63 — MC 15.55[c]	
										(67) (71)	
-Peabody English Vocabulary (45)	26.35	29.22	29.65	32.08	27.68	29.89	30.93	31.32	0.46 (1,133)	7.55** (1,133)	15.95** (1,133)
										WC 28.43 — MC 31.14	Black 27.81 — White 31.14
										(70) (71)	(57) (84)

[1] Maximum test scores are indicated in parentheses.

[a] There are no significant interaction F ratios.

[b] Numbers within parentheses indicate degrees of freedom associated with each F ratio.

[c] Means connected with a line differ significantly.

** p <.01

Table 6

English Academic Achievement Means

Achievement Test	Immersion				Control				F Ratios[a]		
	WC Black	MC Black	WC White	MC White	WC Black	MC Black	WC White	MC White	Program	SES	Race
Beginning-of-Year:											
-Metropolitan Readiness Composite Score Level I (76)[1]	48.50	61.56	58.76	60.52	48.95	56.33	54.77	58.43	1.58 (1,132)[b]	8.26** (1,132)	5.90** (1,132)
										WC 52.33 / MC 59.30[c]	Black 51.95 / White 58.55
										(69) (71)	(57) (83)
End-of-Year:											
-Metropolitan Readiness Composite Score Level II (73)	45.19	57.13	56.12	58.61	51.11	57.33	55.46	61.04	1.60 (1,129)	8.43** (1,129)	7.71** (1,129)
										WC 51.36 / MC 59.26	Black 50.75 / White 58.42
										(69) (68)	(56) (81)

[1] Maximum test scores are indicated in parentheses.

[a] There are no significant interaction F ratios.

[b] Numbers within parentheses indicate degrees of freedom associated with each F ratio.

[c] Means connected with a line differ significantly.

**p < .01

Table 7

French Test Results: June 1984

Test	WC Black	MC Black	WC White	MC White	F Ratios[a] Sex	SES	Race
1) Listening Comprehension Test (O.I.S.E.) (45)[1]	29.42	35.11	32.25	33.50	1.77 (1,62)[b]	3.16 (1,62)	0.36 (1,62)
Percentile Ranking	53	74	62	67			
2) Listening Comprehension Test Maternelle (20)	12.37	15.33	13.31	13.12	1.69 (1,62)	0.95 (1,62)	0.08 (1,62)
Oral Production Test Maternelle (17)	4.17	5.00	5.50	5.31	1.30 (1,61)	0.12 (1,61)	1.05 (1,61)
Total Test Maternelle (37)	16.44	20.33	18.81	18.42	1.88 (1,61)	0.61 (1,61)	0.12 (1,61)

[1] Maximum test scores are indicated in parentheses.

[a] There are no significant interaction F ratios.

[b] Numbers within parentheses indicate degrees of freedom associated with each F ratio.